



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,659	10/26/2001	Glen B. Cook	SP01-302	4629
22928	7590	10/20/2004	EXAMINER	
CORNING INCORPORATED			HOFFMANN, JOHN M	
SP-TI-3-1			ART UNIT	
CORNING, NY 14831			PAPER NUMBER	

1731

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/035,659

Applicant(s)

COOK ET AL.

Examiner

John Hoffmann

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 13-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 13-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Examiner could not find any support for the new limitation of rendering the bonding surfaces hydrophilic. The closest related disclosure is putting a hydrophilic surface "on" the bonding surfaces – but there is nothing regarding rendering/converting. This is a prima facie showing: the burden is now on applicant to demonstrate that the written description requirement is complied with.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1731

Claim 3 previously required providing a surface on the bonding surface. It now requires changing the surface to be a hydrophilic surface. It is unclear what the difference is (if any) between these two modes. The specification doesn't discuss what the claimed "rendering" is. It is deemed that one of ordinary skill would not be able to tell what the difference is – so as to be able to avoid infringement.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, and 13-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over LeNoane 4407667 (or Sterling 4195980) in view of Gwo 6284085. (Note: other references are used as evidence as to what is inherent)

LeNoane (as well as Sterling) discloses the bonding of glass preforms, but not the temperature limitation. Gwo teaches that one can create a strong room-temperature bond in a manner which is simple and inexpensive. It would have been obvious to change the LeNoane (or the Sterling) process, by using the improved bonding procedure of Gwo, for the advantages of Gwo. Relevant portions of Gwo include the abstract, col. 1, lines 22-29; from col. 1, line 61 to col. 2, line 19; col. 3, lines 37-62; col. 6, lines 42-62.

Art Unit: 1731

As to the flatness limitation of 5 microns (which is not taught in LeNoane or Sterling) : See Gwo, col. 7, lines 12-15, especially col. 6, lines 24-41 which discloses microroughness, and filling sub-micro-meter gaps. Col. 5, lines 16-19 discloses that one doesn't have to use a silicate if the mismatch is small. Also, col. 5, line 14 refers to "precision bonding". It would have been obvious to have the surfaces as flat as possible so as to avoid the need for adding a silicate and to most precisely bond the objects.

Claim 2 is clearly met.

Claim 3 is inherent (see prior Office Action)

Claim 13 is inherent – see previous Office action.

Claim 14 is met for the same reasons claim 1 is met. However claim 14 also teaches the a bonding strength of 150 psi. Note col. 12, lines 35-40 of Gwo.

Alternatively, it would have been obvious to make the bond as strong as possible –so that it does not fall apart. Alternatively: it is deemed that such is inherent because the Gwo bonding is essentially the same as applicant's bonding.

Claim 15: is disclosed in Gwo at various locations – for example, see figure 3B.

Claim 16: The RCA cleaning (col. 6, line 57 of Gwo) includes contacting with acid. See Fujii 4963505 claim 6, lines 27-38 as evidence.

Claim 17: it would have been obvious to have a pH greater than 8, because if the Gwo base material (NaOH, etc) isn't above 8, then it would be like using plain water.

Claim 18: see Gwo, col. 3, line 61.

Claim 19 the surfaces will be wet/moist whenever treated with one of the liquids.

Claim 20: Gwo teaches heating after the bonding: for example claims 37-38 of Gwo. It would have been obvious not to heat so as to remove the hydroxide, because Gwo is clear that the hydroxide is desired for the bonding.

Claim 21: it would have been obvious that a covalent bond would occur at least when the preform is heated to draw the fiber.

Claims 22- 31 are met for the reasons mentioned above.

Response to Arguments

Applicant's arguments filed 7 September 2004 have been fully considered but they are not persuasive.

Examiner read Applicant's discussion regarding the IDS's and the Offices treatment thereof. It is noted that Examiner did not see any indication that Applicant thought the Office made any error in the treatment of the IDS's. Since Applicant is required to clearly and distinctly point out any supposed error, it is deemed that Applicant does not consider that the Office did not make any error in the treatment of the IDS.

It is also noted that the response of 7 September 2004 did not contain any new IDS, therefore no further consideration is deemed necessary at this time.

The temperature arguments regarding the Coucoulas rejection were convincing. That rejection is no longer appropriate.

Regarding the LeNoane(Sterling)- Gwo combination:

It is argued that the primary references teaches away from using a low temperature. This conclusion is based on those references disclose using a high temperatures. The positive teaching of a limitation is not the same as teaching away of the opposite of the limitation. One of ordinary skill realizes that the LeNoane/Sterling heating is only necessary for the LeNoane/Sterling bonding. One realizes that using a superior bonding technique would entail using different bonding parameters – in this case temperature.

It is further argued that LeNoane teaches welding. This is largely immaterial because one of ordinary skill would readily appreciate that the welding is not the invention in LeNoane – rather it is the connection of the preforms. The welding is merely a particular mode of connecting. Once it is known that a superior mode of connecting is possible, it would have been obvious to adopt superior mode result/steps/parameters and forego the inferior mode and all of its inherent result/steps/parameters.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Therefore it does not much matter that Gwo does not teach bonding fiber preforms: the combination as a whole provides for such.

It is argued that there is no teaching that the Gwo bonding strength would be sufficient. From col.1, line 61- col. 2, line 19: one would expect that the bond would be

Art Unit: 1731

as strong as a frit bond which is "mechanically strong". Gwo also teaches a strength of 4100 psi – or 60% of bulk material (col 12, lines 35-40). Based on col. 5, lines 9-12 of LeNoane, a 40% weaker bond could withstand a total force that is about 420,000.00% stronger than the fiber could – due to the fiber having a much smaller cross sectional area. For these reasons, one would readily expect that the bond would be more than sufficiently strong. Clearly if the fiber can withstand the pulling force of the LeNoane process, then the bond would as well.

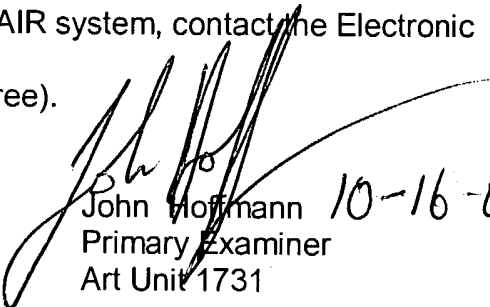
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Hoffmann
Primary Examiner
Art Unit 1731

10-16-04

jmh